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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP  
100 GALLERIA PARKWAY, NW  
STE 1750  
ATLANTA, GA 30339-5948

EXAMINER
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CHU, KIM KWOK

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/643,176	<b>Applicant(s)</b> CHANG, SUNG-SAN	
	<b>Examiner</b> Kim-Kwok CHU	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-10 and 18 is/are rejected.
- 7) ☒ Claim(s) 3-5,11-17 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/18/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### ***Claim Objections***

1. Claims 1, 6, 7 and 19 are objected to because of the following informalities:

(a) in Claim 1, line 3, the term "a optimal" should be changed to --an optimal--;

(b) in Claim 1, line 4, the term "a optimal" should be changed to --an optimal--;

(c) in Claim 6, line 1, the term "as claimed in claim 6" should be changed to --as claimed in claim 1--;

(d) in Claim 7, line 2, the term "an EEPROM" has no antecedent basis in the specification; and

(e) in Claim 19, line 2, the term "Recording medium" should be changed to --recording medium--.

Appropriate correction is required.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature "memory is an EEPROM" in Claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

**Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

4. Claims 1, 2, 6, 8-10 and 18 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Miyake et al. (U.S. Patent 6,580,684) in view of Shishido et al. (U.S. Patent 6,785,213).

Miyake teaches a method of storing data in a hybrid recording medium having steps very similar to that of the present invention as cited in Claim 1, 2, 6, 8-10 and 18. For example, Miyake teaches the following:

(a) With respect to Claim 1, a memory of the recording medium has a first (WORM) and second (rewritable) block which at least an optimal recording power record (in PCA area of Fig. 6 or each frame in Fig. 13) for a first type (CD-R) of recording disk and at least a optimal recording power record (in PCA/frame area of Figs. 6 and 13) for a second type (CD-RW) of recording disk are stored respectively (Figs. 3B, 3C, 4C and 6; column 2, lines 4-10, 15 and 16); predetermining a ratio of memory spaces of the

first (WROM) and second block (rewritable) (Fig. 4C; each region has a predetermined storage capacity); selecting a first partitioning method (format) to determine the ratio of memory spaces of the first and second blocks when the ratio is not predetermined (Fig. 4C; the ratio of memory is determined during the formatting process).

However, Miyake does not teach the following:

- (i) as in Claim 1, a step of dynamically partitioning a memory of the recording medium;

- (ii) as in Claim 1, selecting a second partitioning method to determine the ratio of memory spaces of a first and second blocks when the ratio is not predetermined;

- (iii) as in Claim 9, the recording medium is allowed to switch between the first and second partitioning methods.

Shishido teaches the following:

- (i) a step of dynamically partitioning a memory of the recording medium (Fig. 21, step ST34; column 6, lines 33-36);

- (ii) selecting a second partitioning method (fast formatting/extended formatting) to determined the ratio of memory spaces of either a first (CD-R) or a second (CD-RW) blocks when the ratio is not predetermined (Figs. 21 and 22; column 16, lines 32-42); and

(iii) the recording medium is allowed to switch between the first (full formatting) and second (fast/extended formatting) partitioning methods (Figs. 23; step F103).

Instead of formatting the whole memory space of a recording medium at the beginning, it is faster and more flexible to format a recordable region in the recording medium as needed by a user. In this case, it would have been obvious to one of ordinary skill in the art to select an alternative formatting method to format Miyake's memory blocks in the recording medium such as Shishido's fast/extended formatting process, because Shishido's memory block format is a dynamic operation which only formats the memory blocks as required by the amount of data being recorded.

Furthermore, although Shishido does not disclose that his recording medium is a hybrid recording medium having a CD-R and CD-RW memory blocks, for the benefit of more faster and flexible formatting operations as described above, it would have been obvious to one of ordinary skill in the art to utilize Shishido's fast/extended formatting process on each memory block of Miyake's recording medium in order to achieve the benefit of dynamic formatting operations on either the CD-R and CD-RW types memory blocks in the recording medium.

(b) With respect to Claim 2, Miyake further teaches that the first type of recording disk is CD-R and the second type of recording disk is CD-RW (Figs. 3B, 3C and 4C).

(c) With respect to Claim 6, Miyake further teaches that the first partitioning method further comprises step of setting the maximum number (frame) of the optimal recording power records in the first or in the second block equal to the maximum number (frame) of records stored in the memory (Fig. 13; each ATIP frame has a target recording power corresponds to each recording frame).

(d) With respect to Claim 8, Miyake further teaches that the ratio of memory spaces of the first block (CD-R) to the second block (CD-RW) are predetermined by firmware (manufactured) in the recording medium (Figs. 3B, 3C and 4C).

(e) With respect to Claim 10, Miyake further teaches that the optimal recording power (target power) records for the first type of recording disk (CD-R) are sequentially written into the first block from a low to a high memory address (Fig. 13; each ATIP frame has a target recording power written at the beginning of the frame).

(f) With respect to Claim 18, the recording medium stores the optimal recording power (target power) records for the first type (CD-R) of recording disk into the first

block (WROM) before writing data to the first type of recording disk and the optimal recording power (target power) records into the second block (rewritable) before writing data to the second type of recording disk (Fig. 13; each ATIP frame has a target recording power).

5. Claim 7 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Miyake et al. (U.S. Patent 6,580,684) in view of Shishido et al. (U.S. Patent 6,785,213) and Watanabe et al. (U.S. Patent 5,606,536).

Miyake in view of Shishido teaches a method of storing data in a hybrid recording medium having steps very similar to that of the present invention as cited in Claim 1. However, both Miyake and Shishido fail to disclose an EEPROM memory means and Watanabe teaches an EEPROM memory means 143 in an optical drive device (Fig. 2; column 3, lines 3-12).

To control Miyake's recording power on the hybrid type recording media with recording parameters related to the media, it would have been obvious to one of ordinary skill in the art to store the settings of laser powers with respect to the type of media outside the media such as Watanabe's electrical erasable and programmable memory (EEPROM), because the laser power setting can be stored as



a database in an EEPROM memory where data can be updated with electrical power.

#### Allowable Subject Matter

6. Claims 3-5, 11-17 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

As in claims 3, the prior art of record fails to teach or fairly suggest an optical pickup having the following features:

(a) the first partitioning method comprises step of determining the ratio of memory spaces of the first and second blocks according to a first predetermined value when a difference between the number of the optimal recording power records for the first type of recording disk and the optimal recording power records for the second type of recording disk reaches the first predetermined value.

As in claim 4, the prior art of record fails to teach or fairly suggest an optical pickup having the following features:

(a) the second partitioning method comprises step of determining the ratio of memory spaces of the first and second blocks according to a ratio of the optimal recording power records for the first type of recording disk to the optimal recording power records for the second type of recording disk when a total of the optimal recording power records reaches a second predetermined value.

As in claim 11, the prior art of record fails to teach or fairly suggest an optical pickup having the following features:

(a) the optimal recording power records for the second type of recording disk are sequentially written into the second block from a high to a low memory address.

As in claim 14, the prior art of record fails to teach or fairly suggest an optical pickup having the following features:

(a) the optimal recording power records for the first type of recording disk are sequentially written into the first block from a high to a low memory address.

As in claim 19, the prior art of record fails to teach or fairly suggest an optical pickup having the following features:

(a) the recording medium stores the first recording power consumption records corresponding to different types into the first block sequentially from the low memory

address and stores the second recording power consumption records corresponding to different types into the second block sequentially from the high memory address.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fairman et al. (6,898,172) is pertinent because Fairman teaches a hybrid optical disc.

Horie (6,671,249) is pertinent because Horie teaches an ATIP recording format in an optical disc.

9. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch, can be reached on (57) 272-7589.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

Kim-Kwok CHU

*W* 8/14/06

Examiner AU2627  
August 14, 2006

(571) 272-7585

*William Korzuch*  
WILLIAM KORZUCH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600